

**To:** Clement, Robert[Clement.Robert@epa.gov]; Macler, Bruce[Macler.Bruce@epa.gov]  
**Cc:** Jenzen, Jacob[Jenzen.Jacob@epa.gov]  
**From:** Bahrman, Sarah  
**Sent:** Fri 8/14/2015 3:26:24 PM  
**Subject:** RE: Copper detection in drinking and surface waters.

Thanks! I passed this on to emergency response folks. They've gotten numerous offers of assistance like this, so I'm not sure what's still needed.

Sarah E. Bahrman | Acting Director, Water Program | U.S. Environmental Protection Agency - Region 8

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**From:** Clement, Robert  
**Sent:** Wednesday, August 12, 2015 12:52 PM  
**To:** Macler, Bruce; Bahrman, Sarah  
**Cc:** Jenzen, Jacob  
**Subject:** RE: Copper detection in drinking and surface waters.

Hi Bruce,

I'm going to forward Casey's PhD focus on developing a low-cost device capable of measuring 0.03-1000 ppm copper concentrations in water samples to Sarah Bahrman who has been working with the emergency response folks and may be able to direct you to the appropriate person.  
Thanks.

**From:** Macler, Bruce  
**Sent:** Tuesday, August 11, 2015 10:44 AM  
**To:** Clement, Robert  
**Cc:** Jenzen, Jacob  
**Subject:** FW: Copper detection in drinking and surface waters.

Bob,

Does this seem like something we should look into? Any interest in talking to Casey?

Thanks,

Bruce

Bruce A. Macler, PhD

Water Division Toxicologist

USEPA Region 9

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415 972-3569

seneca

**From:** Jenzen, Jacob

**Sent:** Monday, August 10, 2015 8:52 AM

**To:** Macler, Bruce

**Cc:** Li, Corine

**Subject:** FW: Copper detection in drinking and surface waters.

Hi Bruce,

Casey is someone whose work I've collaborated with in the past, and seems to have a new interesting take on measuring copper contamination. He got in touch with me over the weekend on the subject and his follow up email is below. Would you know anyone I could forward this to in the region 8? I assume this is in our normal responsibilities of responding to public inquiries,

but I imagine it might be interesting to have his results and lab kit compare to the official ones sent to the established permanent ones.

Thanks,

Jake

**From:** [REDACTED] **On Behalf Of** Casey Quinn  
**Sent:** Saturday, August 08, 2015 1:21 PM  
**To:** Jenzen, Jacob  
**Subject:** Copper detection in drinking and surface waters.

Hi Jake,

I'm working on the development of a low-cost device capable of measuring 0.03-1000 ppm copper concentrations in water samples out in the field. For my PhD the focus has been looking at copper levels in drinking water; however, due to the recent events here in Colorado with the Animas river I thought it would be interesting to take some samples/measurements either at the same location over the course of a week or take samples at different locations along the river to show the temporal or spatial changes in copper concentrations along the river. If there is an opportunity to collaborate with someone at the EPA on this project that would be great!

Thank you and I've provided a brief overview of how the technology works.

Casey Quinn

Ph.D. Student - Industrial Hygiene

B.S., M.S. - Mechanical Engineering

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